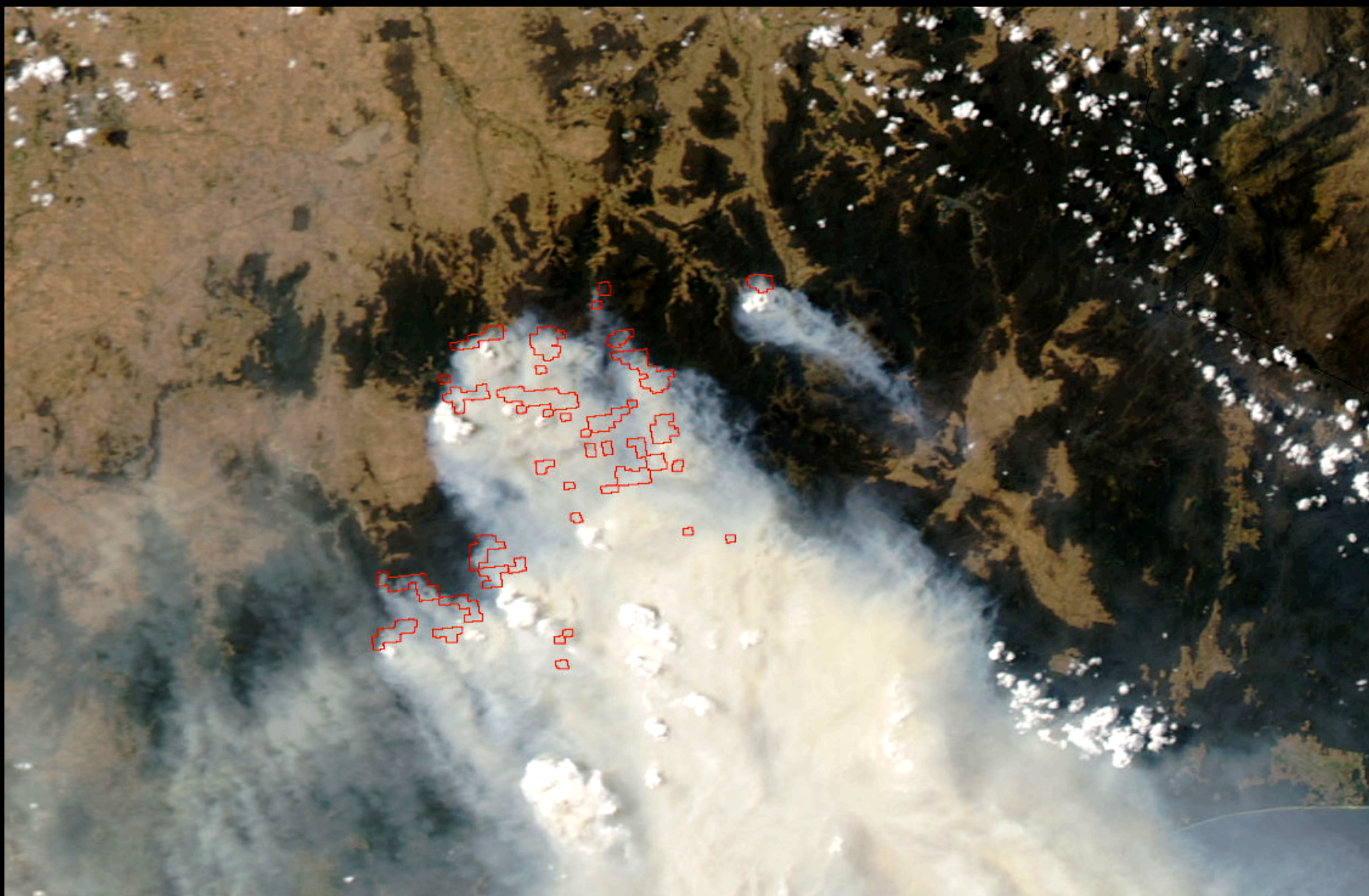


Giglio Panel Question

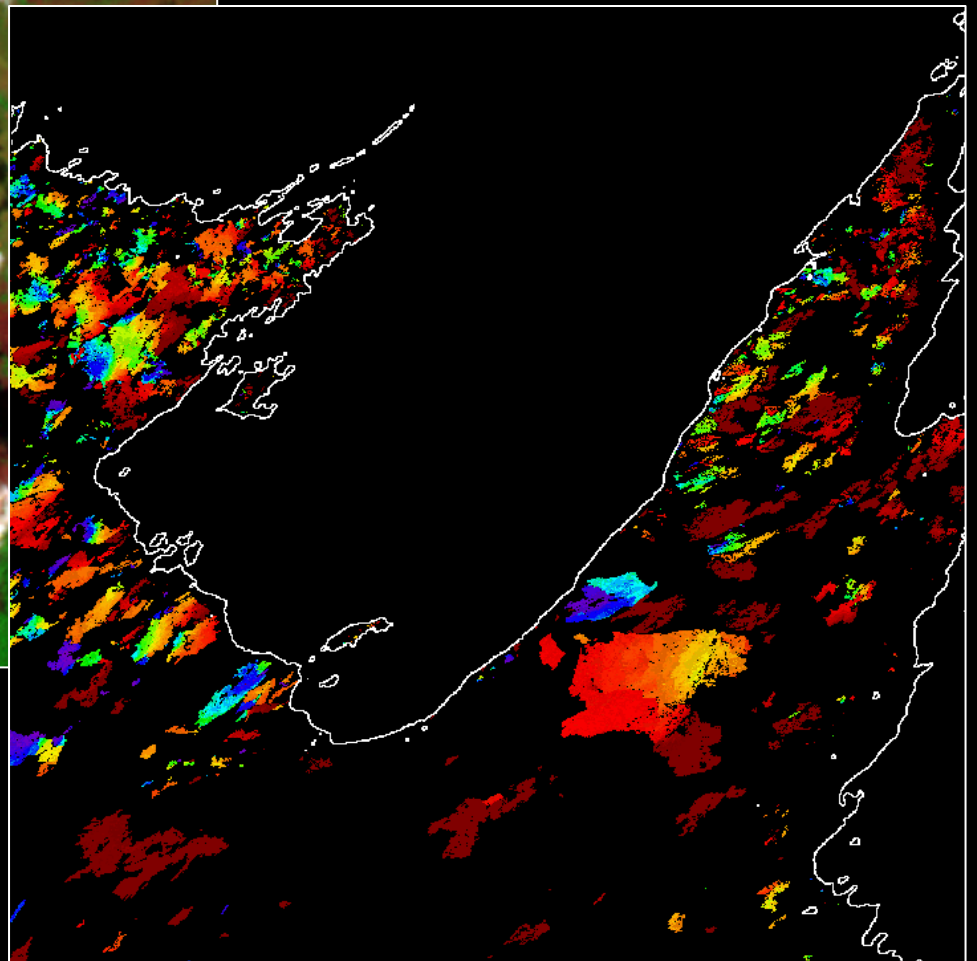
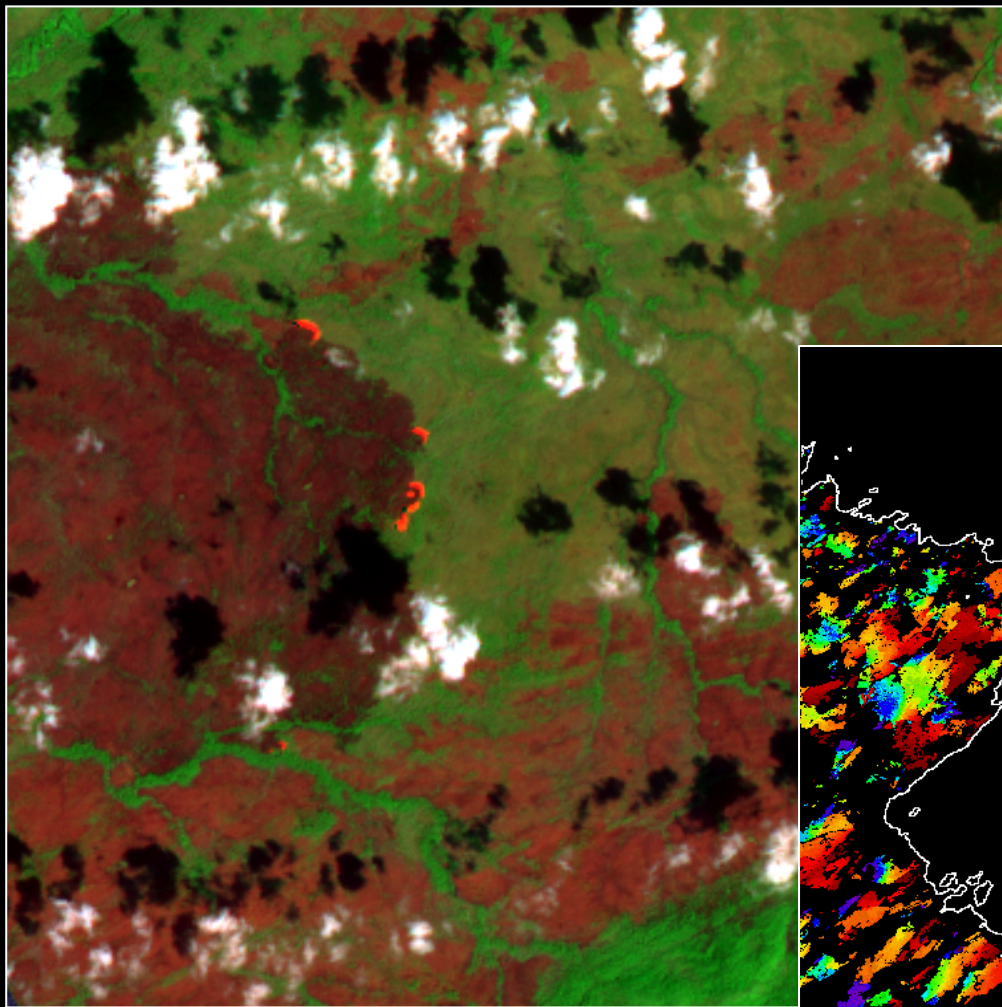
Louis Giglio
University of Maryland

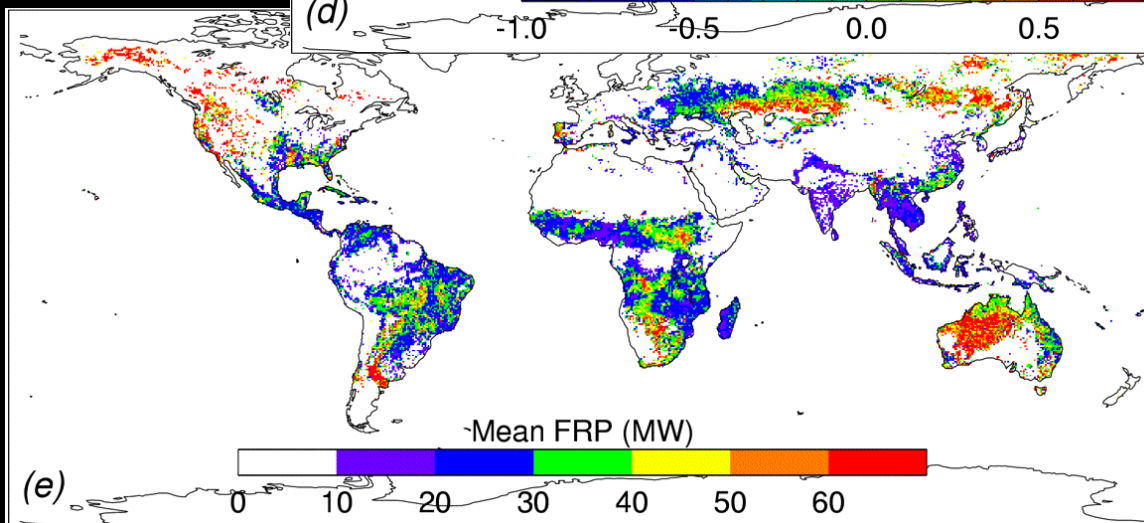
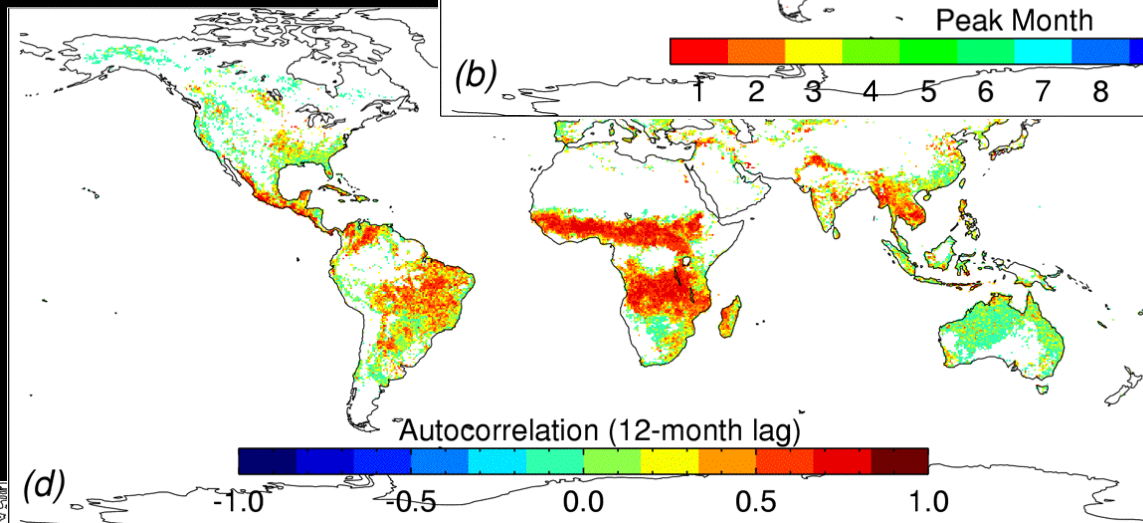
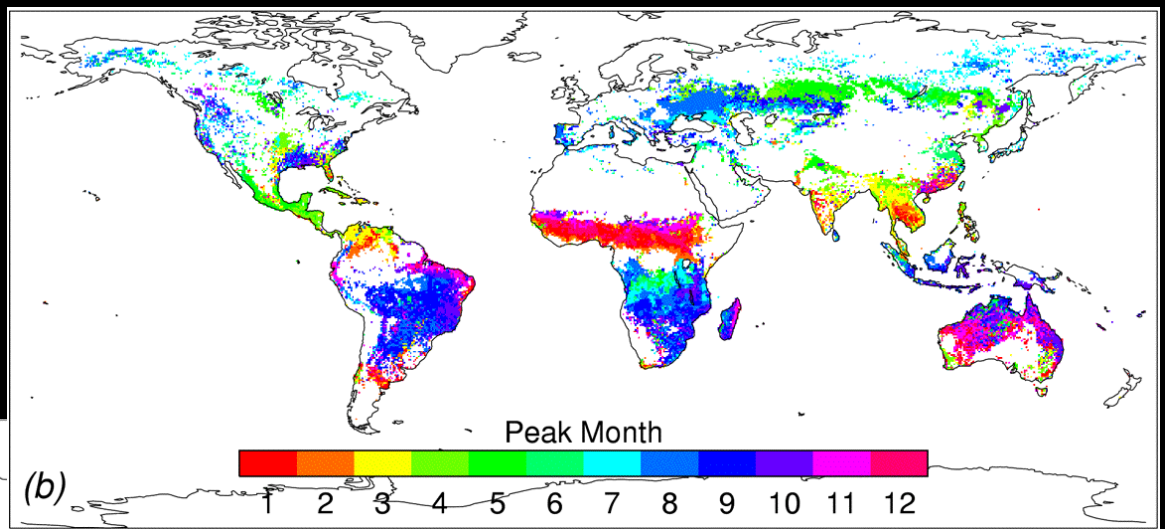
2012 EPA International Emissions Inventory Conference
Tampa, Florida



Southeast Australia, 10 Dec. 2006, 03:45 UTC

MODIS Rapid Response System

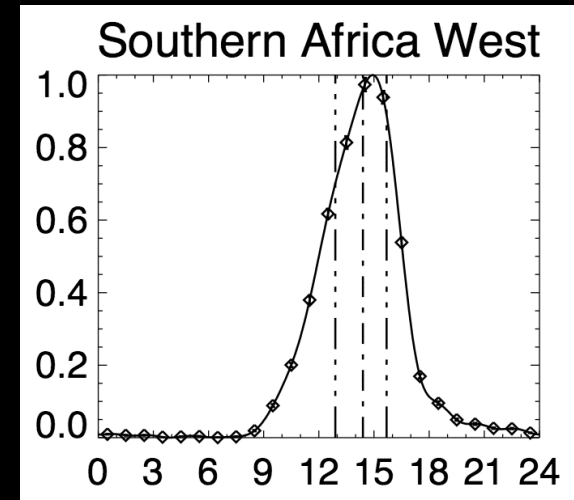
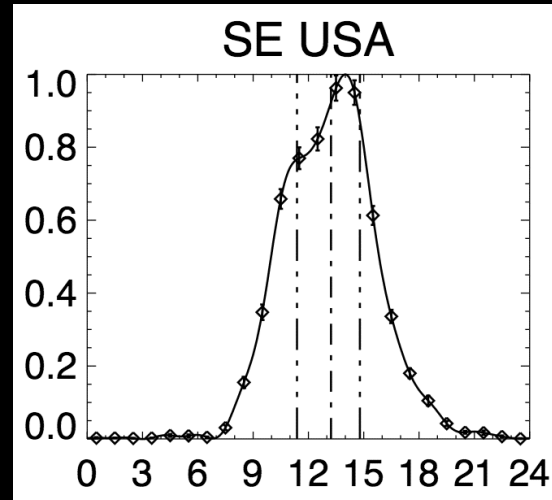




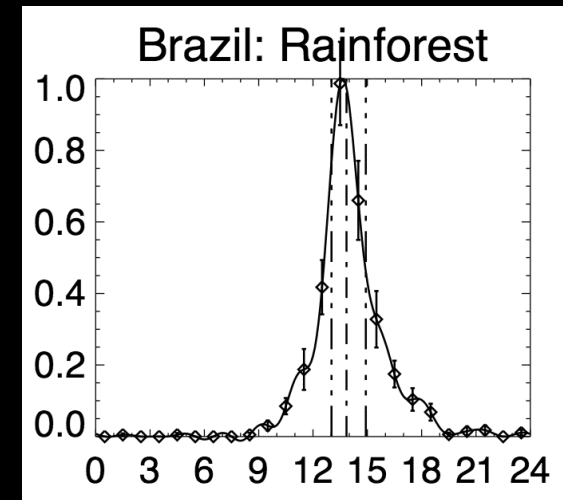
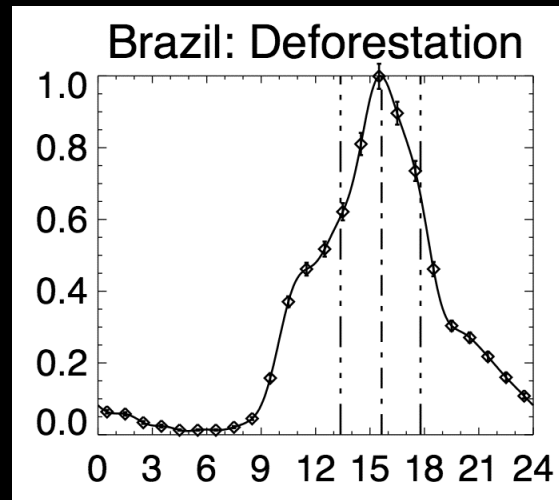
Giglio et al. (2006)

Diurnal Fire Cycle

VIRS fire
observations
used in
conjunction
with MODIS fire
observations.



Local Hour

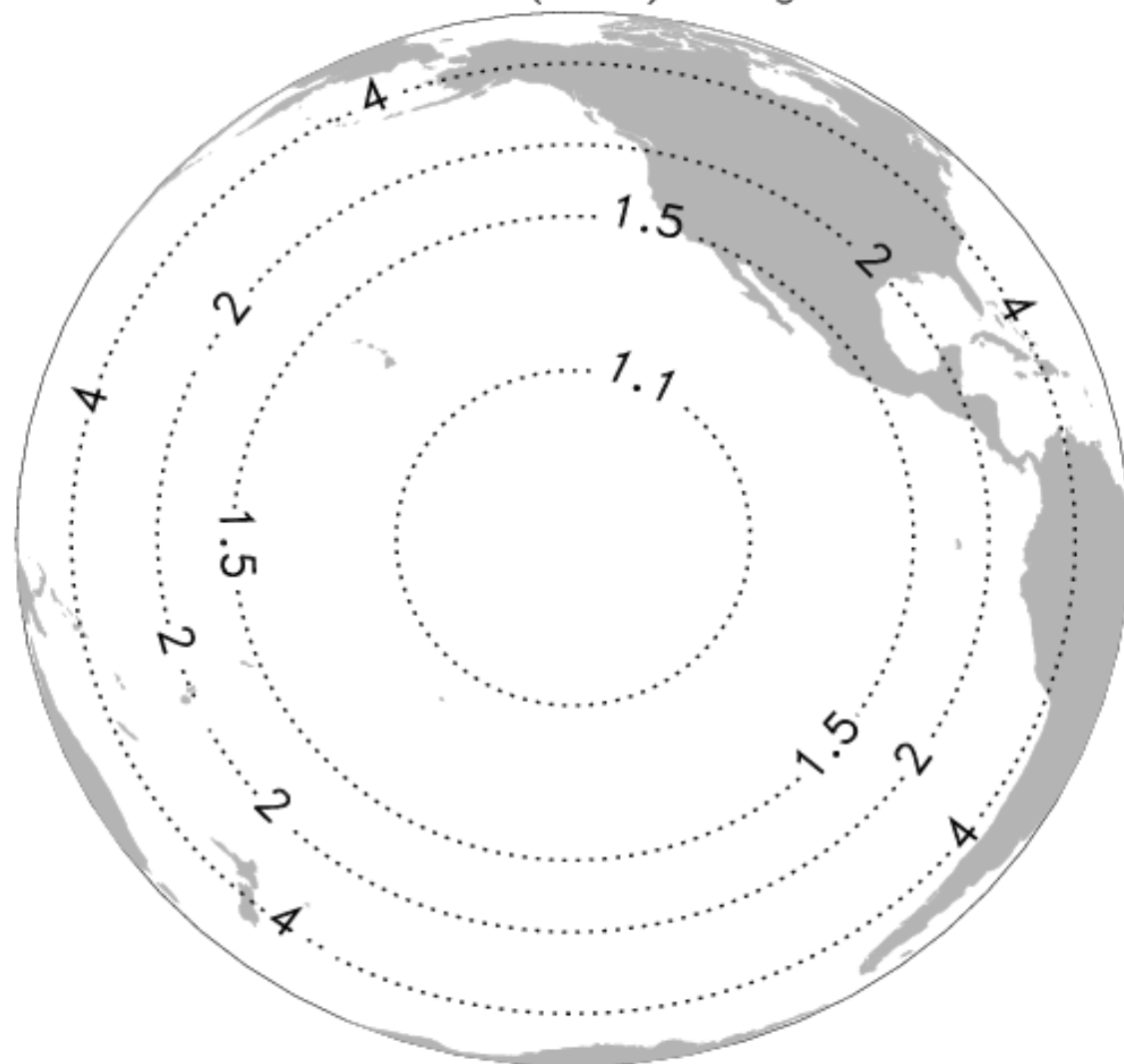


Given that a consistent historic and future NFEI is the ultimate goal, how do you envision the availability of satellite-based data products through time and who might be responsible for producing these data? What is (will be) the role of the fire-satellite-based science community?

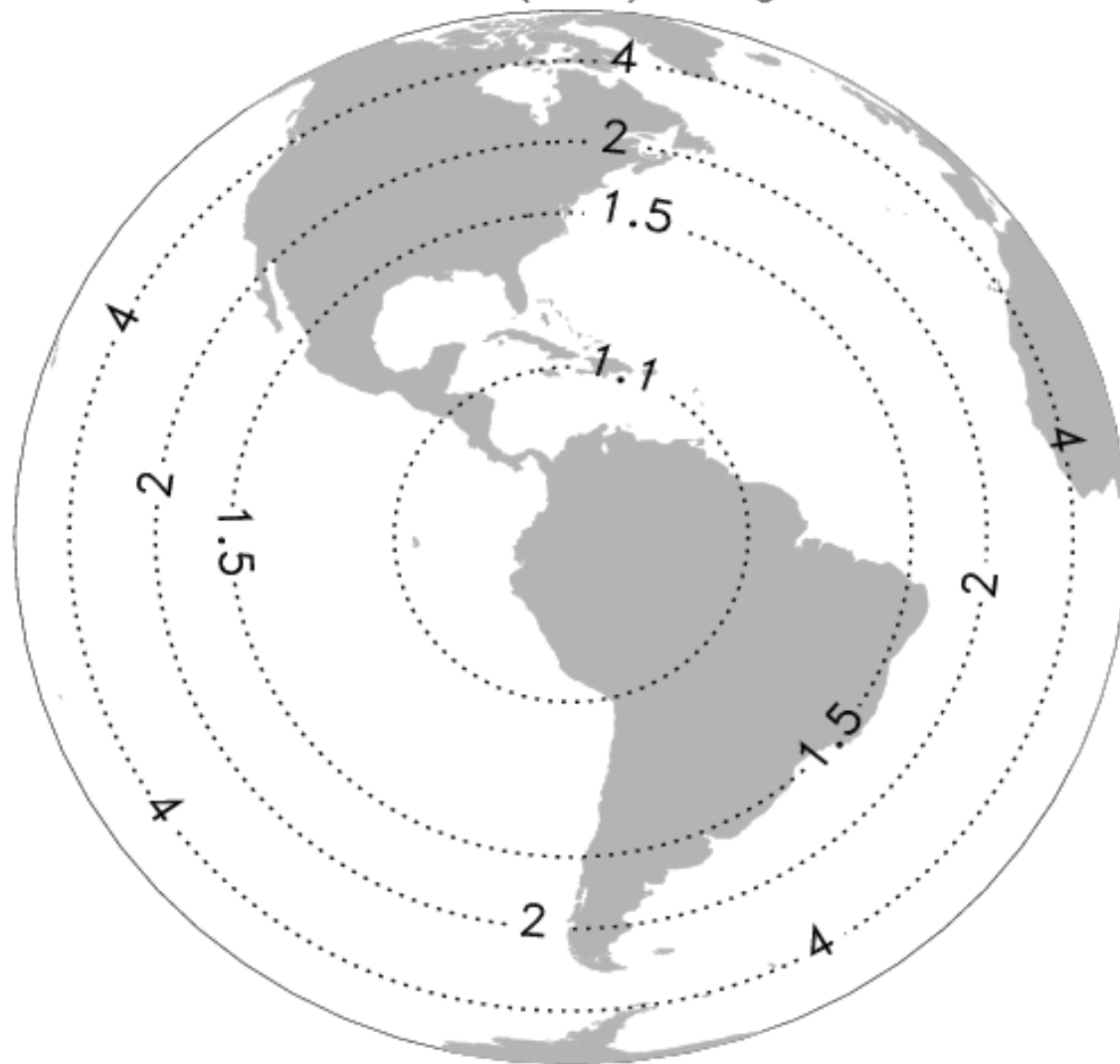
Timeline of Relevant Satellite-Based Fire Products

Sensor	Year	AF/BA Resolution	Active Fire	Burned Area
GOES-8 et al.	1994	4 km	yes	no
ATSR et al.	1995	1 km	yes	no
TRMM VIRS	1998	2 km	yes	no
Terra MODIS	2000	1 km/500 m	yes	yes
Aqua MODIS	2002	1 km/500 m	yes	yes
Suomi-NPP VIIRS	2012	740 m/370 m	yes	none
Sentinel-3 SLSTR	2013	1 km/500 m	yes	none
GOES-R ABI	2014	2 km	yes	none/no
JPSS-1 VIIRS	2016	740 m/370 m	yes	none
JPSS-2 VIIRS	2019	740 m/370 m	yes	none

GOES-10 (West) Imager



GOES-8 (East) Imager



Product Issues

- Availability
- Reliability
- Consistency
 - Characteristics of sensor and satellite platform dictate everything about a product
 - How to link disparate products over time?
 - HMS model is extremely problematic

Product Factors

- Active Fire
 - Spatial resolution
 - Overpass frequency
 - Diurnal sampling
 - Radiometric characteristics
 - Spectral characteristics
 - Detection (and possibly characterization) algorithm

Product Factors

- Burned Area
 - Spatial resolution
 - Overpass frequency
 - Spectral characteristics
 - Detection algorithm

Timeline of Relevant Satellite-Based Fire Products

Sensor	Year	AF/BA Resolution	Active Fire	Burned Area
GOES-8 et al.	1994	4 km	yes	no
ATSR et al.	1995	1 km	yes	no
TRMM VIRS	1998	2 km	yes	no
Terra MODIS	2000	1 km/500 m	yes	yes
Aqua MODIS	2002	1 km/500 m	yes	yes
Suomi-NPP VIIRS	2012	740 m/ 370 m	yes	none
Sentinel-3 SLSTR	2013	1 km/500 m	yes	none
GOES-R ABI	2014	2 km	yes	none/no
JPSS-1 VIIRS	2016	740 m/ 370 m	yes	none
JPSS-2 VIIRS	2019	740 m/ 370 m	yes	none